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United States Department of the Interior
Fish and Wildlife Service
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Fishery Leaflet 157

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# JAPANESE FISHING INDUSTRY 1/

I. After fruits and vegetables, fish constitutes the principal means of subsistence on the Caroline Islands. Fish are abundant in the water surrounding most of the islands and in the atoll lagoons. Substantial quantities of bonito are caught and dried. Tuna is caught and, on some islands, cured. Carp-like silvery fish, which grow to a length of about 12 inches, abound in the streams of Kiyi on Ponape and are quite palatable. Shellfish, sharks and eels are also used as food. Many methods of fishing are used, and fishing instruments, which include the rod, lance, net, bamboo net, stockade, and stone dike, are well developed.

Little food processing is practiced. N.B.K. operates a starch factory in the Matalanim District of Ponape. There is also a tapioca works in this district. There is a tuna-curing plant in the Kiti District on Ponape and a fish cannery on Dublon. Copra is produced on many of the islands; in 1938, 3,517 tons of copra valued at $162,450 were produced on Ponape alone. Bonito is dried by the natives and saved for later use, in addition to the quantities exported to Japan.

II. Japan, before the war, was the world's foremost fishing nation. About 1½ million people were engaged in the industry. Livestock and poultry are relatively scarce, and the fishing industry must provide not only an important share of protein in the diet, but also much of the fertilizer, animal oils, fats, and skins. In prewar years, the annual fish catch of Japan proper was about 6,000,000,000 pounds.

The most important fish is iwashi or sardine. The iwashi fisheries handle anchovy and round herring as well. Only a small fraction of the annual haul is taken by the canning industry, the major part being salted and dried. Three-quarters of the total fish oil value in 1938 was sardine oil. Sardine accounts for 2/3 of the annual production of fish-meal, used as fertilizers and animal feeds as well as human food. Other important sea foods are mackerel, bonito, tuna, buri, tai, and oysters. The Inland Sea, especially the coast of Hiroshima prefecture, and Ariake-wan in Kyushu, are the outstanding oyster breeding regions in Southwest Japan.

Of Japan's 355,000 fishing vessels in 1939, 283,000 were without engines. Of those with engines, only 123 were steam propelled; the remaining 71,516 were powered by internal combustion motors - diesels, semi-diesels, small oil and gasoline power units. Only a few sailing vessels are engaged in deep-sea fishing off the Japanese coast or in the more remote fishing grounds.

About 3/5 of the fishing vessels in 1939 were isaribune, flat-bottomed boats propelled by a scull or sails, operating within 20 or 30 miles of the shore.

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1/ Extracted by the Office of the Chief of Naval Operations from information in the Navy Department files.

II. Japanese Fishing Industry (Cont'd).

Roughly 32% of the total Japanese catch was accounted for by the southwestern prefectures. The relationship between coastal fishing and deep-sea fishing in Southwest Japan (as in the country as a whole) was about 7 to 3. About ½ of the 1,500,000 persons engaged in the Japanese fishing industry in 1939 lived in the southwest. Within the area, Nagasaki-ken has by far the largest coastal catch before the war -- 8% of the total for Japan. Yamaguchi was the leading prefecture in the deep-sea fishing industry.

Fishing in Honshu, Kyushu, and Shikoku is almost equally divided between coastal and deep-sea fishing. Coastal fishing is carried on in a multitude of tiny villages near good fishing areas, with little regard for quality of boat havens. Deep-sea fishing, on the other hand is based on a few leading fishing ports with true harbor facilities. A small commercial port for deep-sea fishing in Japan resembles the older Mediterranean harbors more than it does any North American port; it is characterized by permanent stone quays, long sea-walls, and neatness of construction.

The most important fishing ports in Southwest Japan are Shimonoseki and Nagasaki. Nagoya, Osaka and Kobe are important as destinations for aquatic products and as transshipment points rather than as fishing ports.

Other important fishing ports are Katsuura (Wakayamaken); Hiroshima (Hiroshima-ken); Takamatsu (Kagawaken); Muroto (Kochi-ken); Kochi (Kochi-ken); Tobata (Fukuoka-ken, FIGURE IX -4); Hakata (Fukuoka-ken); Kagoshima (Kagoshima-ken); Moji (Fukuoka-ken); Miyazaki (Miyazaki-ken); and Aburatsu (Miyazaki-ken).

III. There are many good fishing grounds among the Nansei Islands, but fishing is not as important as it might be. In 1936 there were in Okinawa Prefecture only 14,568 fishermen, only half of whom devoted themselves entirely to fishing. In the same year there were 175 motored fishing boats and 2,247 sailing craft. Only some 4,395 families, or 3.6% of all families were engaged in fishing in 1933. The value of the 1936 catch in dollars was as follows:

| | | |
|---|---|---|
| Fresh fish | | |
| | Cuttlefish | $14,500 |
| | Shark | 10,440 |
| | Mackerel | 8,410 |
| | Horse Mackerel | 6,090 |
| | Tuna | 6,090 |
| | Flying fish | 4,060 |
| | Octopus | 4,060 |
| | Sea Bream | 4,060 |
| | Bonito | 2,610 |
| | TOTAL, including others | $186,320 |

III. Fishing Industry (Cont'd)

Dried Fish and other fish products

| | |
|---|---|
| Dried bonito | $262,450 |
| Dried tuna | 19,720 |
| Dried cuttlefish | 5,220 |
| TOTAL, including others | 312,430 |

IV. Fish is an important supplementary food in all the Nanpo Shoto. Bonito and horse-mackerel are most commonly eaten.

The poorer houses are only partly floored, the floored part supplying a platform for drying fish.

Ogasawara and Kasan Islands:

The principal marine products are whale meat and oil, tuna, bonito, sharks, green turtles and oysters. There are two fishing seasons. From November to May whales and tuna are caught, and in the months of June to October bonito is taken.

Bonito is the most important item, the total catch averging 575,000 pounds annually. Most of the Bonito catch is dried and production annually averages 83,000 pounds (valued at almost $11,000). Tuna are sold fresh, being preserved in the Takunan Maru, a refrigerator ship owned by the Ogasawara Suisan Kaisha (Ogasawara Marine Products Co.) which transports the tuna catch to Japan. Tuna are also canned, as are oysters and green turtles. The canning center is on Chichi Jima, and part of the canned goods is sold to the army for provisions.

Izu Islands:

Fishing is as important as agriculture on most of the Izu Islands. Bonito, mackerel, horse-mackerel, shrimp, lobster, pike, flying fish, sharks and cuttlefish compose the greater part of the catch. Fishermen come from the mainland to base their operations in these islands. The surplus catch is transported to Tokyo and Yokohama.

Aoga Shima:

Bonito and flying fish are caught from canoes, but there is no surplus after the needs of the islanders have been satisfied.

Hachijo Jima:

Fishing is the most important activity, with agriculture, stock-breeding, forestry, and industry next in order of importance. In 1936, the products were valued as follows:

| | |
|---|---|
| Fishing | $13,050 |
| Agriculture | 9,338 |
| Stock-breeding | 8,700 |
| Forestry | 6,612 |
| Industry | 2,987 |
| Total | $ 40,687 |

Of the fishing products, bonito, tuna, horse-mackerel, flying-fish, shark and cuttlefish are most important. The bonito and mackerel are dried, but the cuttlefish are shipped fresh to Tokyo. In the season, fishermen come from the mainland and even from Kyushu. Gelidium, from which agar-agar is made, is gathered.

In the fishing season, fishermen in motor-craft come from Chiba and Shizuoka prefectures as well as from O Shima. In 1937 there were some 65 power fishing boats as well as a number of sailing vessels.

Kozu Shima:

Fishing and agriculture are about equally important, the men being engaged in the first occupation and the women in the second. Bonito is the most common fish caught. Seaweed is also gathered.

Miyake Shima:

Fish are abundant, particularly bonito and flying fish. Gelidium, a seaweed from which agar-agar is produced, is the major product in terms of value. Ako is the chief fishing village.

As supplies, fish, beef, pork, butter, sweet potatoes, taro and fruits are obtainable, but only in small quantities. Generally, provisions are scarce.

Many fishing craft, some of which have gasoline motors, are to be found, particularly at Ako.

O Shima:

Fishing is an important occupation. The fishing center is Habu Ko, where a number of fishing-vessels are based. At Habu Ko is a large market where bonito, mackerel, horse-mackerel, shrimp, lobster, and mackerel pike are sold daily. The chief fishing season is from late spring to early winter. Part of the catch is shipped to Tokyo, and to the Awa-Shimosa peninsula (Chiba Prefecture) in Japan. All the fishermen are islanders. In the older fishing villages of Okada and Motomura stock raising has largely replaced fishing.

Chichi Jima Retto (Beechey Group):

Fish-canning is one of the principal manufacturing activities. The Dai Nippon Seihyo Kaisha (Great Japan Ice Manufacturing Co. ) has an ice plant with a three-ton capacity at Omura.

Fishing, particularly whaling, is important, but in recent years the catch has decreased. The Toyo Hogei Jigyo Kaisha (Oriental Whaling Co.) has an office at Omura. A few turtles are caught. In the past there has been a limited amount of coral fishing.

V. B. <u>Fisheries</u>.

An abundance of fish, including sardine, shark (together constituting the largest part of the catch), tunny, swordfish, "tai" (favorite of the Japanese), bonito, and shell-fish, is found in the waters surrounding Formosa, the Spratly Islands, and Boko-to (Pescadores). Despite fairly large exports of fresh fish,

V. (Cont'd)

Formosa depends upon Japan for larger imports of dried and canned fish. The average annual Formosan consumption of fish is estimated to be 25 pounds per capita.

In 1939, 75% of the Formosan fishing catch resulted from deep sea fishing, the remainder from coastal fishing. The total catch in 1939 weighed 4,860,000 kan, or about 40,000,000 pounds, and was valued at over 25,000,000 yen. The area of the hatcheries all over the island is about 30,000 ko (72,000 acres).

(1) Types of Fish.

Bonito, tunny, shark, swordfish, and sea-bream are found in the northern sea area; bonito and tunny in the eastern sea area; grey mullet, yellow-tail, shark, scombremours niponium (a mackerel-like fish), and red sea-bream in the western sea area; and tunny, bonito, shark and sea-bream in the southern waters. Bonito angling, and trawling for tunny and swordfish are done chiefly from Takao, Kiirun, Suo, and Boko-to. From Daibanrachi, at the southern tip of Formosa, 20 to 50 whales are caught annually by 2 whaling vessels.

In addition to the salt water catch, hatcheries on 70,000 acres of land are devoted to fish culture. Sabachi, grey mullet and crustaceans such as crabs, lobsters, and oysters are bred. Sabahi, a favorite fish of the Chinese, is the most important of these. It is cultivated largely on the coast of Tainan province, especially at Ampin. Grey mullet is raised in fish ponds in Takao province, and oysters and lobsters chiefly along the coasts of Tainan, Taichu, and Takao provinces. Carp, grey mullet and other fresh water fish are raised also in Taichu, Tainan, and Shinchiku provinces.

On the flat banks, extending far out to sea from Ampin (Tainan-shu), oysters are raised. Oyster shells are placed on bamboo sticks stuck into the muddy bottom of the flats. These shells attract immature oysters carried in by the tide, and these young oysters, nourished by the tides, grow to a large size in 1 year.

Renkodai, bonito, sharks, and sardines are the most important fish caught off Kiirun.

Dragnet fishing from motorboats yielded catches valued at 3,180,000 yen. In 1934, 29 boats were engaged in bonito fishing. Sea-bream fishing has lately been declining. Fishing for tunny, spear, and shark has proved very profitable, engaging 450 boats in 1935, which had catches valued at over 2,000,000 yen.

V. (Cont'd)

The results of aquatic catches in Formosan waters from 1932-1938 are presented in Table IX -10.

TABLE IX -10

AQUATIC CATCHES IN FORMOSA, 1932-1938
(In thousand kan)

| TYPE OF FISH | 1932 | 1934 | 1936 | 1938 |
|---|---|---|---|---|
| Sardine | 1,512 | 2,834 | 2,898 | 2,094 |
| Bonito | 969 | 1,572 | 1,284 | 264 |
| Tai | 328 | 430 | 483 | 307 |
| Shark | 1,603 | 1,854 | 2,031 | 1,626 |
| Tunny | 808 | 857 | 1,348 | 971 |
| Swordfish | 868 | 1,190 | 1,054 | 669 |
| Shellfish | 16 | 53 | 409 | 206 |
| Shrimps | 106 | 129 | 151 | 199 |
| Cuttlefish | 146 | 186 | 306 | 193 |
| Coral | 2.6 | 1.2 | 5.3 | 1.5 |
| Weeds | 136 | 83 | 97 | 145 |

(2) The Fishing Industry.

About 130,000 persons are engaged in the Formosan fishing industry. Only about 6,000 of these are Japanese, the remainder being Formosan-Chinese. Of this number, about 100,000 are fishermen, 60% of them part-time.

In 1938, there were reported to be 10,000 fishing boats in operation in Formosan waters. Of these, only 1,000 were power vessels. However, the proportion of power vessels is believed to be steadily increasing. Based on Kiirun, Takao, and Suo are 200 to 300 sea-going fishing vessels powered with kerosene motors which can carry equipment and 70 to 100 men. Owing to the war, the Japanese have confiscated a number of fishing boats for military purposes, 811 Formosan fishing boats being expropriated between 1937 and 1942.

(3) Fishing Ports.

The 2 most important Formosan fishing ports are Takao and Kiirun. Takao is a base for deep-sea fishing in an area extending from the straits of Basio to waters near the Philippines. Fishing vessels embarking from Takao sometimes remain at sea from 25 to 35 days.

Fishing is one of the most important industries in Kiirun, and the 1939 catch from that port was valued at 6,000,000 yen. Other important fishing ports are Suo, Shinko, and Mako.

(4) Imports and Exports.

Formosa is not at present self-sufficient in fish but could become so. Each year Formosa imports more fish than she exports, the chief source of imports

V. (4) Imports and Exports (Con'd).

being Japan proper. Formosa exports fresh fish to Japan, and imports dried and salted fish from Japan. Total imports of dried and salted fish from Japan amounted to over 35,000,000 kin (46,667,000 pounds) in 1939; imports of the same items from foreign countries in the same year totaled 1,740,000 kin (2,320,000 pounds).

Table IX - 11 lists the amounts of different types of fish imported and exported by Formosa in 1937.

The following measures have been considered necessary in order to make Formosa self-sufficient in fish: deep-sea fishing must be further developed; improved and increased storage and refrigeration facilities must be provided; subsidies to fishing companies should be continued; fishing equipment and additional sites for boat repairs should be provided; increases in labor supply in the fishing industry should be attempted through shifts within the Formosan economy, rather than through the importation of labor from other Far Eastern areas.

TABLE IX - 11

QUANTITY OF FISH IMPORTS AND EXPORTS, 1937
(in thousand kin)

| | IMPORTS | | EXPORTS | |
|---|---|---|---|---|
| TYPE OF FISH | FOREIGN COUNTRIES | JAPANESE EMPIRE | FOREIGN COUNTRIES | JAPANESE EMPIRE |
| herring, salted..... | 3,924.3 | 2,211.2 | | |
| trout, salted..... | 3,190.1 | 19,509.7 | 81.5 | |
| mackeral, salted..... | | 2,191.1 | 46.6 | |
| sardine, salted..... | | 551.3 | 71.8 | |
| fresh fish and shell fish | | 7,664.2 | 609.3 | 11,184.8 |
| hairtail, salted..... | | 3,114.6 | | |
| salmon, salted..... | | 1,521.1 | | |
| cod, dried..... | | 1,277.0 | 629.6 | |
| small fish, dried..... | | 6,131.9 | 373.5 | |
| cuttle, dried..... | | 1,428.4 | 103.7 | |
| shrimp and prawns, dried or salted..... | 9.0 | 2,485.5 | 236.5 | |
| other salted fish..... | 32.6 | 125.2 | 84.9 | |
| other dried fish..... | .7 | 1,703.0 | 62.9 | |
| other shell fish, dried.. | | | 165.8 | |
| shark's fins..... | | | 161.9 | |
| Konbu (Laminaria)..... | | 403.6 | 214.8 | |
| Other fish and aquatic products..... | 38.5 | | 74.7 | |
| sea blubbers, salted..... | 210.7 | | | |
| whale meat..... | | | | 111.2 |
| Katuobusi..... | | 144.9 | | 271.4 |

B. Fisheries

Although fish are plentiful in the waters off the Palau Islands, seafood is subsidiary to vegetables in the native diet. Deep-sea fishing is carried on by both Japanese and natives, tuna and bonito being the most important varieties caught. Operations are conducted chiefly off Koror and Malakal. Lagoon fishing is unimportant in the Palau Islands. The Marine Products Experimental Station on Koror has been concerned in part with improving the efficiency and output of the fisheries.

The Japanese South Seas Pearling Fleet, consisting of about 150 diesel-powered vessels, had its headquarters in Koror.

(2) Fisheries

Fish were plentiful in the waters of the Celebes Sea Area, and were the chief animal food for local populations. Next to rice, corn and sago, it was the most important item of diet.

Natives caught fish along the coasts, while the Japanese engaged in deep sea fishing. There was a Japanese fishing company operating from Ternate in Halmahera, one operating from North Borneo, others from Manado in Northern Celebes, and others from Mindanao. Fish was exported from Northern Celebes, North Borneo, the Sulus, and Minanao.

(3) Food processing, refrigeration, and storage.

Little information is available on food processing, refrigeration or storage facilities. The only known installation in the Sulus was an ice plant on Jolo Island. One Japanese fish cannery at Manado and a number of ice factories, coffee hulling and roasting plants, and mineral water plants were scattered through Northern Celebes. British Borneo had a number of ice factories and rice mills, while Mindanao had the most extensive food processing facilities, including a Japanese tunafish cannery, a pineapple cannery at Bugo, and several small plants for making desiccated coconut. No facilities were known on Halmahera, Sangihe, Talaud, or Dutch Borneo, although it must be presumed that very small and primitive rice mills existed.

Halamahera Sector:

(2) Fish.

Fish are abundant. The export of dried and smoked fish (known locally as "Ngoewaro") was an important coastal industry. The principal centers were Kaoe and Paniti on the east coast and Sidangoli on the west coast of Halmahera and Ternate. There was a Japanese fishing colony on Ternate before the war.

Sangihe - Talaud Sector:

(2) Fish.

Although fishing was formerly one of the chief occupations of the natives

VII. Sangihe - Talaud Sector (Cont'd).

their wants were not satisfied by domestic supply, and considerable quantities of dried and smoked fish were imported.

Mindanao Sector:

(2) Fisheries.

The coastal waters of Mindanao abound in salt water fish, and there are fresh water fish in the streams of the interior. The natives rely on local fish for their principal animal food. Before the war, large quantities of canned fish were imported.

Most of Mindanao's fish were caught by natives fishing in shore with primitive implements. Deep-water commercial fishing was done by Japanese, who used power trawlers. At present, the absence of former imports of canned fish and Japanese use of their fishing boats for other purposes makes it probable that the amount of fish available in urban centers has been sharply reduced.

Sulu Archipelago:

(2) Fisheries.

Fish are very plentiful in the waters around the Sulu Archipelago. Fishing was formerly a principal occupation, and dried fish were exported.

Northern Celebes Sector:

(2) Fish.

Fish is second only to rice among native foods. Many varieties can be found in abundance along the shore line. The natives catch them by means of nets or fence-like traps made of bamboo.

The Japanese have used Manado as a fishing base for many years, specializing in tuna and bonito. Mitsui and other Japanese firms had power boats, warehouses and 1 cannery there. Since occupying the Netherlands East Indies, the Japanese have expanded their fishing enterprises in Manado.

VIII. D. Fishing Industry.

Before the war Japan was the world's foremost fishing nation, with an annual catch of about 6,000,000,000 pounds and about 1,500,000 people engaged in the industry. The largest catch was sardine, and the major part of the sardine haul was salted and dried. Sardine constituted 2/3 of the annual production of fish meal, and 3/4 of the total fish oil value in 1938 was in sardine oil.

VIII. (Cont'd)

Hokkaido accounts for about 1/3 of the total Japanese fish catch, and its principal hauls are herring, sardine, salmon, mackerel, flounder, and cod. Deep sea fishing is decidedly secondary to coastal fishing and is done off the eastern shores of the island. The deep sea catch consists of cod, salmon, tuna, cuttlefish, seals, sea otters, and a few whales.

Prior to the war, Hakodate was a base for the Japanese fisheries which operated seasonally in the Sea of Okhotsk off Kamchatka.

Cod was fished from modern, diesel-powered trawlers often found quite far from shore, and Hokkaido also had a considerable number of steam-propelled and other power vessels engaged in fishing. Much of the coastal fishing craft, however, was non-power boats based at the many small fishing settlements which dot the coastline.

The 4 principal fishing ports are Hakodate, Otaru, Nemuro, and Muroran. Secondary ports are Kushiro, Abashiri, Rumoe, Iwanai, Kiritappu, Suttsu, Esashi, and Urakawa.

VIX. D. Fishing Industry.

(1) General Economic relationships.

Central Japan produces about 35% of the total annual Japanese fish catch. Like the marine industries elsewhere in Japan, it plays the same role in the regional economy as meat and dairy industries play in western countries. Fish and other marine products thus supply an important share of the protein, as well as fertilizer, animal oils, and fats, and other industrial needs. Most of the catch is consumed in the region, although processed foods (dried, salted, or canned fish) and industrial marine products move southward to the centers of dense populations. Before the war the chief exports were canned tuna, canned sardines, and agar, but the proportion of exported marine products to the total produced was small, in contrast to the areas farther north, such as Hokkaido and Karafuto.

(2) Important fishing areas.

The eastern (Pacific) coast fisheries are much more productive than those of the Japan Sea area. Greater natural marine resources, more harbors, and a higher density of population help to account for a normal concentration of at least 4/5 of the production on the Pacific shore. Within the Pacific prefectures there is a further marked concentration at Choshi (chiba-ken), a port favorably located near the great urban markets of the Kanto region. Choshi is also near the lanes along which move the principal migratory fish species--sardines, tuna, and bonito.

(3) Species caught, methods.

The fisheries of the area are diversified, although sardine by far outranks other species in weight of total catch. Next to sardines are the various members of the mackerel family, as bonito, albacore, and tuna, as wellas true

VIX. (Cont'd)

(3) Species caught, methods. (Cont'd)

mackerel. Swordfish and spearfish are taken in the same fishery. Herring are much less important than sardines, although their habits, the gear used in their fishery, and their food and industrial uses are similar to those of sardines. Cod, Alaska pollack, and fresh-water species are less significant. Carp, eels, and a trout-like fish are widely raised in fresh-water ponds, lakes, and flooded rice fields, and constitute useful adjuncts to the diet of inland farmers, who obtain very little animal protein otherwise. (TABLE IX-5).

TABLE IX-5
FISHING INDUSTRY, CENTRAL JAPAN, 1939

| PREFECTURE AND IMPORTANT FISHING PORTS | NUMBER OF FISHER-MEN | NUMBER OF FISHING BOATS | VALUE OF COASTAL CATCH (in yen) | VALUE OF DEEP-SEA CATCH (in yen) | WEIGHT OF CATCH (in kan*) (1937) |
|---|---|---|---|---|---|
| Shizuoka-ken | 49,853 | 7,948 | 13,451,427 | 11,011,753 | 13,270,000 |
| Numazu | | | | | |
| Kanagawa-ken | 23,128 | 6,442 | 6,904,186 | 1,076,730 | |
| Misaki | | | | | |
| Tokyo-to | 25,820 | 7,577 | 4,930,671 | 712,443 | |
| Tokyo | | | | | |
| Chiba-ken | 70,895 | 18,644 | 8,776,873 | 11,723,343 | 49,481,000 |
| Choshi** | | | | | |
| Ibaraki-ken | 26,819 | 5,951 | 6,663,246 | 2,012,517 | 2,041,000 |
| Mito | | | | | |
| Fukushima-ken | 12,852 | 2,030 | 3,842,734 | 6,114,517 | 2,781,000 |
| Onahama | | | | | |
| Miyagi-ken | 38,868 | 8,730 | 4,379,430 | 12,143,697 | 13,991,000 |
| Shizugawa, Shiogama, Kesennuma, Ishinomaki | | | | | |
| Iwate-ken | 49,971 | 10,863 | 13,296,317 | 3,834,506 | 4,829,000 |
| Miyako, Kamaishi | | | | | |
| Aomori-ken | 44,463 | 9,285 | 15,696,589 | 5,470,307 | 3,346,000 |
| Aomori, Hachinohe, Same | | | | | |
| Akita-ken | 14,577 | 2,740 | 2,017,092 | 632,117 | |
| Yamagata-ken | 10,596 | 1,665 | 930,072 | 494,342 | |
| Kamo | | | | | |
| Niigata-ken | 32,389 | 7,792 | 5,410,956 | 755,804 | |
| Naoetsu | | | | | |
| Niigata | | | | | |
| Toyama-ken | 21,371 | 2,738 | 5,594,396 | 50,046 | |
| Ishikawa-ken | 23,833 | 7,320 | 6,574,212 | 552,054 | |
| Nanao | | | | | |
| Kanazawa | | | | | |

* 1 kan - 8.267 lb.

** Choshi is the principal fishing port in Central Japan. Prior to 1940 Chiba-ken had 8% of the total catch for Japan proper; Ibaraki and Shizuoka-ken had 4% each.

VIX. (Cont'd)

(4) Processing and marketing.

Sea foods for consumption by the masses are distributed fresh, dried, or salted. Canned and frozen fish are luxuries, except in the large cities. As no important cities are far from the sea, cheap sea foods are normally available in their markets. The greatest wholesale distributing center for fish is the modern central fish market in Tokyo. Another, much smaller, is in Yokohama.

Next to the various methods of processing sardines and herring (drying, salting, milling), the specialized drying of bonito is perhaps the most important processing applied to marine foods. The very hard-dried bonito known as katsuobushi produced in Shizuoka prefecture, is a favorite food item in Japan.

(5) Features with strategic or tactical significance.

Fishing vessels may be encountered almost anywhere offshore, though they are likely to be more active in the summer months, and most numerous in the vicinity of the larger fishing ports on the east coast. In normal times the Japanese motor fishing boats operated as far as 1,000 miles from shore, especially those engaged in bonito, tuna, and albacore fishing.

Almost every coastal village of central and northern Honshu has a small fishing fleet and when not at sea the smaller boats are usually hauled up on the beaches. Beaches may be encumbered at certain periods of the year with fish-drying mats, and with nets. Other fishing gear is a continous encumbrance. The sun-drying of fish and seaweeds on beaches is characteristic of the smaller fishing villages.

In addition to gill-nets, lines, trawl-nets, and other gear used from boats, many fish are taken in stationary traps or "pound-nets", moored offshore. These are reported to be most numerous along the west (Japan Sea) coast. Since they are obstacles to coastal navigation, their locations are recorded in the sailing directions.

Sardines are gill-netted in great quantities, especially in the summer months, as they move along the coasts, fairly close to shore. As the season progresses, they are taken farther north, on both eastern and western coasts. Herring are taken off the northwest coast of Honshu, and landed mainly in Aomori and Akita prefectures.

The bulk of the mackerel-like fishes (tuna, bonito, and albacore) are taken off the east coast, with trawl-lines and pole-and-line from motorized boats, often operating several hundred miles from shore. The center of this fishery moves northward during summer and is pursued farthest offshore in winter months. Bonito are landed chiefly in the south in Shizuoka prefecture. Albacore and tuna are caught farther north, and there are important landings of tuna in Iwate prefecture.

The Japan Sea coast is limited in the mackerel-like fishes, though true mackerel are caught off Ishikawa, Toyama, and Niigata prefectures mainly in summer. Cod and Alaska pollack are taken the year round with lines and in trawl-nets in the Japan Sea off western Aomori prefecture and Akita prefecture. Herring

VIX. (Cont'd)
(5) (Cont'd)

are caught principally off the coast of northwestern Honshu. In prewar years there was an important Japanese fishery off northeastern Korea and the southern coast of the Maritime Provinces of the U.S.S.R., conducted from motorized vessels based in western Honshu ports.

Flatfishes and many species of mollusks and crustaceans are taken throughout the coastal areas; oysters are important only in the indented coasts of Iwate and Miyagi prefectures, and nowhere equal the oyster fisheries of the Inland Sea and more southerly waters.

Seaweeds are used for food and industrial purposes. A most important food seaweed (amanori) is raised in large quantities in the shallow portion of Tokyo-wan, and giant kelp (Kombu) is gathered for industrial uses along the northeastern coast of Aomori and northern Iwate prefectures.

There are runs of salmon and eels in the streams of northern Honshu, but the catch is not great as compared with salmon fisheries in Hokkaido, and other northern waters.

JAPANESE FISHING INDUSTRY

X.

Because of its position as a warm-water port, Hakodate has become the winter anchorage for the fishing vessels operating off Karafuto and the Kuriles; and the packing, processing, and storage of fish and fish products has become the leading industry of the city. Of the numerous companies connected with the fishing industry in Hakodate, the Japanese-Russian Fisheries Company, Ltd. is the largest and most important. It is also the principal fishing corporation of Japan.

Included in the large fleet of fishing vessels, which the Japanese-Russian Fisheries Company operates, are 10 refrigerator vessels, each capable of freezing 180,000 cases of herring, salmon and salmon trout.

XI.

Oldest, but now second in importance among Ch'ongjin's industries is the fishing industry, which is principally concerned with the extraction of oils and fats from iwashi, a giant sardine. To this end Ch'ongjin supports a large fishing fleet and several well-equipped factories, most of which are now devoted to producing glycerine. In 1937, the iwashi catch amounted to 5,000,000 barrels, and it is reported that the amount was increasing each year thereafter. The Kyodo (Godo) Fat and Oil Company, a Mitsui concern and the largest producer of fish-oils in northeastern Korea, is situated just east of the small vessels harbor, in the portion of the city which lies on the peninsula. With the exception of the Hayashikane Freezing Company, which is just inland of the small industrial quay (Reference 27) southward of the south breakwater, the remainder of the fishing industry is concentrated at Industrial Harbor B, which was originally planned solely as a fishing harbor, but which now serves other industry as well. These plants surround the western and northern sides of the Harbor, and include the Hayashikane Cannery, the Korea Fat and Oil Co., the Seishin Marine Supply Co., the Purse-Seiners Association, the High Seas Products Co., the North Korea Marine Products Co., the Japan Food Supply Co., and the Igawa Manufacturing Co. All, with the exception of the Purse-Seiners Association, which is undoubtedly a fishermen's co-operative, are private companies engaged in canning or the extraction of oils and fats. The quays around the harbor are equipped with modern conveyors for the discharge of cargo, and three oil tanks with a total capacity of 1,000 tons are said to stand close inland of the harbor; whether these are for petroleum or fish-oil storage is not clear.

XII.

With Aomori, the port of Hachinohe is outstanding in Aomori Ken for its fishing industry. The value of the coastal catch in the ken in 1939 was 15,600,000 yen, and of the deep sea catch, 5,400,000 yen. In 1936 there were at least two canneries.

XII. (Cont'd) In the Hachinohe area, the fishing season is from June through November and the value of the catch is 2,000,000 yen annually. The average tonnage of fishing boats is 17.9 tons. It is probable that about 90 per cent of the fishing vessels is powered.

Pg. 10, Whaling.

There is a whaling station on the coast west of Same. Reports are that some attempt has been made to use the whale oil, which is produced, as a petroleum substitute. There is also fresh meat, canned food, whale oil, fertilizer, and other products. Winches are used in processing the whales which were pulled into the station by the whaling boats.

XIII. Fishery is an important source of food in the Japanese Mandated Islands. In 1937, 4,755 of the population were engaged in fishing on a commercial basis. It is estimated that their catch totalled more than 10,000 metric tons. It was valued at ¥6,862,588 ($1,990,150) and the manufactures therefrom were valued at ¥5,484,774 ($1,590,584). In 1936, when the catch was half that size, a total of 453 craft, of which 216 had engines, were engaged in fishing on a commercial basis. Bonito, tunny, mackerel and horse-mackerel made up the bulk of the catch.

Ailuk (Tindal, Watts) Atoll:
Fish are abundant, particularly tuna, bonito, and flying-fish.

Arno (Arhno) Atoll:
Horse-mackerel and flying-fish are abundant; also a few others, in smaller quantities. Native canoes are only craft available.

Jaluit (Bonham) Atoll:
Provides fish canneries for surrounding atolls.
Besides small sloops and native canoes, there were in 1940 some 50 harbor craft with Diesel engines of from 15 to 300 horsepower.

Kwajalein (Kwajalong) Atoll:
There are many kinds of fish, including poisonous varieties. Tuna, bonito, horse-mackerel and shark are abundant.

Lae Atoll:
Fish are abundant.

Likiep Atoll:
Abundant fish. Near the entrance bonito, tuna and yellow-tail can be caught, and on the northeast side near Jarutonii Island there are many giant clams.

Maloelap (Kaven, Calvert) Atoll:
Horse-mackerel, sardine and tuna.

Mili (Mille, Mulgrave) Atoll:
Tuna, mackerel and flying-fish are abundant.

Namorik (Baring) Atoll:
Fish are abundant and tuna, horse-mackerel and flying-fish are easily caught.

Utirik (Kutusov) Atoll:
Flying-fish and squills are abundant. There are very few poisonous fish.

Wotje (Romanzov) Atoll:
Great numbers of horse-mackerel, sardine and tuna.

XIV

Tuna and bonito are caught around the island and dried. There are a large number of canoes; each native household owning four or five.

Part II, Marianas Islands, Pagan Island, pg. 44.

Tuna are caught in the sea west of the southern volcano.

Part II, Marianas Islands, Saipan Island, pg. 54.

Fishing is an important industry. In 1931, 1,250,000 pounds of bonito and 40,000 pounds of tuna were caught in the Marianas group. Some of the catch is exported.

A large number of harbor craft are at Saipan, probably more than at any other of the Islands under Mandate. There are many Japanese motor sampans for fishing and many native canoes.

XV.

Source: James Franklin M. Bland, a British subject, was born in Dublin, Ireland 6 June 1905. At present he is a Captain in the Canadian Army and is an Administrative officer stationed in Vancouver, B.C.; he resides at 1869 W 17th Street. After graduating from college, Bland obtained a position with the Rising Sun Petroleum Company, subsidiary of the Shell Oil Company and was stationed in Japan from December 1926 until January 1941. During this time he was stationed at various times in Kobe, Yokohama, Sendai, Otaru, Osaka and Nagoya. He has a good command of the Japanese language but does not read or write it.

Brief: The following report contains information on the fishing industry of the Sanriku Coast which extends from Minato on the North to Shiogama in the south on the Japanese Island of Honshu. Information as of January 1941.

FISHING INDUSTRY OF SANRIKU COAST: (From 38°26' N., 141°20'30" E. to 38°19'30" N., 141°02'E.

1. According to Bland, shore waters off northeastern Honshu are the source of supply of fish for local areas. Cuttlefish, smelts and other small varieties are obtainable generally the year around, the only exception being periods when weather conditions do not permit fishing. The boats used for this fishing are small, many of which are manually operated; however, some are equipped with engines which use kerosene or light oil.

2. The larger fish, which includes the Deep-sea Tunny(Maguro) and Bonita (Katsuo), are a National source of food for the Japanese Empire. The large-fish season off the Sanriku Coast is from 15 September to 15 December. The Japanese boats used in this industry are equipped with diesel engines of 50 to 80 HP. These boats are very seaworthy and are operated well over a thousand miles off shore.

3. When the fish are brought ashore, they are placed in cold storage and shipped by truck all over the country. With the exception of Kamaishi, the ports on the Sanriku Coast all have rail facilities. These ports are normally supplied by tankers, but if thisservice is disrupted, the oil can be shipped by rail tank cars. If both the rail and sea routes are disrupted, the fishing industry would be crippled resulting in a serious blow to a source of food which is of national importance to the Japanese.

4. The Tunny and Bonita season open in March or April off the Coasts of Kyushu and Shikoku. The fish gradually move north and east until by the middle of September they are located off the Sanriku Coast. Boats from all over the Southern and Western parts of Japan take part in the fishing season. For example, when the fish are off the Sanriku Coast, there will be boats from Kagoshima, Kochi, Shidzuoka and Tokyo Bay, as well as local Sanriku Coast Boats, who themselves have followed schools of fish from the Southern Islands of the Japanese Empire.

5. The fishing grounds are so far off shore that it is relatively immaterial as to which port boats will call to unload their catch and take on fresh supplies. There is consequestly a keen interport competition and as a result, it is impossible to foretell exactly where oil supplies will be needed most. During peace time, the oil companies maintained tankage up the coast equivalent to about 3 times the peak monthly requirements of the whole coast. Bland suggested that if this tankage is kept full it could represent a useful emergency supply for the Japanese Navy if other sources should fail.

6. According to Bland, the main ports supplying oil for the fishing industry are as follows: (All of these ports have rail facilities and could, if necessary, be supplied by rail tank-wagon - with the exception of Kamaishi.)

Principal Ports:

Tsurumi . . . . . .(USHO Chart #5546, App. 35°30' N., 139°41' E.)
Onogawa . . . . . .(USHO Chart #2190, app. 38°27'12"N;141°27'12"E.)
Ofunato . . . . . .(USHO Chart #5549, app. 39°03' 35"N;141°43'30"E.)
Nonai (Aomori). . . .(USHO Chart #5315, app. 40°51' N., 140°51' E.)
Akkeshi (Hokkaido)...(USHO Chart #5545, app. 43°06' N., 144°50' E.)

Smaller Ports:

Shiogama . . . . . .(USHO Chart #2190, app. 38°19'20"N.,141°02'E.)
Ishinomaki . . . . .(USHO Chart #2190, app. 38°26'30"N.,141°21'E.)
Kesennuma. . . . . .(USHO Chart #5549, app. 38°54'15"N.,141°34'25"E.)
Kamaishi . . . . . .(USHO Chart # 2726,app. 38°16'15"N., 141°52'45"E.)
Miyako . . . . . .(USHO Chart #2726, app. 39°38' N., 141°50' E.)
Minato . . . . . .(USHO Chart #2190, app. 38°26' N., 141°20' E.)

XVI (5) Fishing:

The Korean fish catch was one of the largest in the Japanese Empire, and yielded annually an average of 2,800,000,000 pounds in the middle 1930's. The greater part of the deepsea fishing took place off the east coast, and this was the source of most of the exports of sea foods. Sardine, which representated 60% of the catch in 1939, was an important export. About 400,000 persons were dependent upon fishing for their livelihood.

XVII. (2) Fisheries.

Edible fish are abundant in waters around Formosa, the Spratlys, and the Pescadores, but Japan proper supplies most of the dried and salted fish consumed in Formosa. Deep-sea fishing accounts for 3/4 of the Formosan catch;

the remainder is coastal or from fish hatcheries which cover about 72,000 acres on the island. Sardine and shark are the largest part of the catch; tunny, swordfish, tai, bonito, and shellfish are caught in lesser quantities. The 1939 total catch was about 40,000,000 pounds.

Principal fishing ports are Takao and Kiirun; lesser fishing ports are Suo, Shinko, and Mako. About 130,000 persons (most of them part-time) and 10,000 boats (1,000 power driven) were engaged in the Formosan fishing industry in 1938.

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